REPORT OF THE TASK FORCE ON SOIL - WATER - WETLANDS MANAGEMENT IN SASKATCHEWAN

A

REPORT PREPARED FOR
THE HONOURABLE HAROLD MARTENS
MINISTER RESPONSIBLE FOR
SASKATCHEWAN WATER CORPORATION

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Saskatchewan

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ACKNOWLEDGEMENTS

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    - Lois Boyle
    - Dave MacLeod
    - Roy Brown
- Margaret Pearse Sarich for editorial assistance.

THE TASK FORCE
SOIL, WATER, WETLANDS

From Left to Right:
Joe Zagrodney - Wadena
Elaine Wheaton - Saskatoon
Ed Kennett - Parkman (Chairman)
Roberta Blackwell - Assiniboia
Jack Piercy - Rosetown

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Introduction

In recognition of the critical importance of the management of soil, water and wetlands, the Government of Saskatchewan appointed a Task Force to address this issue. The Task Force was asked to receive public input and make recommendations based on the findings and conclusions arising from the information presented.

The methods used by the Task Force to receive input are documented in the body of this report. At the conclusion of the Task Force meetings, each participant wrote one or more of the chapters on the seven themes that emerged from the information received. The chapters were then compiled into a central report and an executive summary written to highlight key findings of the Task Force.

A significant response was received with 67 briefs presented. An estimated 224 people participated, either through presenting or writing briefs, or attending the public meetings. Discussion periods at the Task Force meetings provided an opportunity for the people of Saskatchewan to voice widespread concern about the need to protect soil, water and wetlands for future generations.

The Saskatchewan public consider it essential that these natural resources be enhanced and retained, and believe that society needs to have input into the formation of policies and programs that achieve this goal. There is consensus that the financial costs of a conservation positive approach to sustained land use be shared among all beneficiaries.

Adequate education and information systems were considered of paramount importance. Differentiation was made between education of youth and programs designed to provide adult education.

The people of Saskatchewan call for a cooperative and coordinated program that protects and effectively manages soil, water and wetlands. They believe that the present policies and procedures need to be reviewed, upgraded, and in some cases, integrated to achieve the most cost-effective and efficient results. They urge immediate improvement in intergovernmental communication, and in communication and cooperation among nongovernmental organizations and agencies.

Although it was expressed in many different ways by people from all disciplines and interest groups, a strong message emerged - that the land needs to be returned to a healthy state, and that the way to do this is through bold action and commitment to true and appropriate stewardship of the land.

The highlights and summary of briefs are based on the presentations made to the Task Force by the people of Saskatchewan.

I. HIGHLIGHTS

1. The multi-use process of using resources is advocated to ensure a cooperative, problem-solving approach between agricultural and other interest groups.

2. Coordination of government departments and agencies is necessary to ensure improved understanding and interdepartmental cooperation.

3. Government policies related to soil, water and wetlands need to be examined to ensure they are coordinated and conservation positive.

4. There are strong and diverse feelings about who should develop, implement and control land use policy. Farmers stressed very strongly that decisions relating to their land and water resources should remain with them.

5. Enhanced production and a sustainable soil base is dependent on technological advances. Such advances require effective research, development and technology transfer.

6. Demonstration projects that involve farmers in testing promising technology are effective methods of sharing information.

7. Education is key in achieving attitudinal changes needed to promote better soil, water and wetlands conservation. This should be incorporated into the entire school curriculum.

8. Urban dwellers and some government officials could better recognize and understand the problems faced by farmers.

9. There appears to be controversy over public funding of private agricultural practices, especially drainage.

10. Public input is necessary in developing and implementing policy for land use and in managing soil and water resources.

11. Farmers will willingly support conservation-wise farming practices if they are assured adequate return on their investment.

12. The rural community needs the support of all Canadians in absorbing the costs of conservation positive changes in land management.

13. To achieve proper stewardship of the land, Saskatchewan needs to be considered as a total entity with many resources, not just as a grain producing province.

14. As environmental conditions are interwoven, solutions to soil, water and wetlands management should be sought within a holistic, societal and interdisciplinary framework.

15. Saskatchewan needs different soil, water and wetlands management programs for different regions.

16. The conservation preservation and enhancement of soil, water and wetlands should be given high priority.

17. Society in general has farmers producing cheap food yet this same society asks farmers to also supply cheap food and habitat for wildlife and waterfowl.

18. Consumer education related to farm economics is needed as food costs may rise if proper soil conservation measures are implemented.

II. AGRICULTURAL ECONOMICS, POLICIES AND PROGRAMS

1. There is consensus that immediate change is needed in agricultural policies that affect soil, water and wetland resources.

2. Certain policies and practices in agriculture cause significant soil degradation that costs the economy millions of dollars annually.

3. Saskatchewan must implement necessary changes related to soil, water and wetlands conservation because neither society nor farm economics will stand for the present status quo.

4. A comprehensive and multi-use Saskatchewan land use policy that is responsive to the farming community should be developed. A balance between economics and the ability of the land to produce must be found - this balance must be reached in an orderly, pre-conceived fashion with involvement of all interested groups and the Government of Saskatchewan.

III. SOIL CONSERVATION AND MANAGEMENT

1. There is recognition of, and widespread concern about, the problems posed by insufficient conservation of soil, water and wetlands, and the threat posed by this.

2. There is awareness that immediate action is necessary to ensure that sufficient good quality resources and environment are left for future generations.

3. Soil, hydrological and other land use related information needs to be improved, updated and inventoried quickly as some characteristics of the environment, which have been drastically altered, must be described and the consequences assessed.

4. Soil and water conservation, watershed restoration by grassing and planting, and erosion control should be actively encouraged, rewarded and promoted.

5. Diversification has a definite role in conservation.

6. Trees play a major role in conservation and sustainable development. Additional and existing tree planting programs should be encouraged and promoted.

IV. MANAGEMENT OF FLOOD CONTROL, WATER AND WETLANDS

1. Current legislation is inadequate to protect and preserve soil, water and wetlands.

2. The wetlands question must be addressed in terms of the quality and quantity needed to maintain an ecological and environmental balance.

3. Some agencies believe that, due to work of Conservation Area Authorities, habitat and wetlands have been reduced; others said very dry climatic conditions are the cause.

4. Farmers are very concerned when self-interest groups want to control what is being done to the land they farm.

5. Unauthorized drainage is a real problem and needs to be addressed; faster turn around time for permits and more authorization of drainage were suggested.

6. The multiple values of wetlands are not well documented. Valuation methods and models are needed that allow inclusion of these values.

7. There is a need to review and update wetlands classification in regard to permanent or temporary status. This would improve decision making for future projects.

V. EDUCATION AND COMMUNICATION

1. A high priority is placed on enhanced education that provides the general public with factual information on farming practices and requirements.

2. A public education policy needs to be developed and implemented that results in increased knowledge about soil and water resources and conservation issues.

3. The education of young people is considered extremely important. The school system needs to place more emphasis on soil and water resources, the agricultural economy, and environmental awareness.

4. Improved communication and attitudes are necessary among groups and individuals, the basis of which should be an open and cooperative approach to exchanging information and ideas.

5. Communication with the farming community is vital to improve the effectiveness and appropriateness of research.

VI. WILDLIFE HABITAT AND WILDLIFE DEPREDATION

1. The cultivated marginal lands of Saskatchewan should be returned to grass, forage, or wetlands and uses other than grain production should be encouraged for these lands.

2. Programs should be instituted to promote replacement of lost vegetation, trees and wetlands on marginal land, and retention of the remaining undeveloped land and wetland areas.

3. Adequate and prompt compensation for wildlife damages should be paid to the farmer.

4. Some measures are in place to protect lakes, rivers, streams and water bodies on Crown land against clearing right to water's edge. Private lands remain vulnerable to water edge exploitation.

5. Permanent water bodies should be retained and good agricultural land should be protected against flooding.

VII. ECOSYSTEMS AND THE ENVIRONMENT

1. Saskatchewan is now approaching a point of no return in regard to its ecology and environment.

2. Environmental standards should be reviewed, developed, implemented, and strictly enforced.

3. The return of cultivated marginal land to its near natural state would reverse environmental damage created by cultivation.

4. Water should be used more efficiently and our share kept within the province.

5. There is a need for stricter pollution control standards and for stricter enforcement of those standards.

6. Lakes, rivers, streams and all water bodies must be kept free of pollution and those waters that are polluted must be improved.

VIII. SOCIAL AND HEALTH VALUES

1. Societal values influence actions taken in management of soil, water and wetlands. The goal of sustainability, developed as a joint environmental and economic goal, is of interest to many.

2. The landowner needs to be compensated for protecting societal benefits derived from private land. Society has a responsibility to ensure development is sustainable.

3. Health concerns include the state of the environment, continuation of adequate quality water supplies, pollution caused by burning, and pollution in the waterways. Chemical use in agriculture is also of concern.

CONCLUSIONS AND RECOMMENDATIONS

After considering all of the information provided to us by the people of Saskatchewan during the period of Task Force meetings, the Task Force draws the following conclusions and makes the following recommendations.

The Task Force believes that these matters are of paramount importance and urge immediate action be taken on the recommendations.

1. Agriculture is a very important part of the Saskatchewan economy, therefore programs or policies for land use should be encouraged, and these should be planned in harmony with the farming community to achieve a stable agricultural economy.

Recommendation

That a comprehensive, long-term land use policy be developed and implemented that encourages multi-use and sustainable development. It is further recommended that this policy be developed on a regional basis with input from the local public and a broad spectrum of government and nongovernmental agencies.

2. It is clear that the relationship between resources and agriculture could be better understood by all citizens.

Recommendation

That the importance of proper use and management of soil, water and wetlands in Saskatchewan be introduced and incorporated into the elementary and high school curriculum and that the curriculum be developed with input from rural and urban communities. Adult education programs should also be given a high priority and current awareness and information campaigns should be enhanced through various means. These include demonstration programs involving farmers at regional levels, extension agrologists, rural development organizations, trade shows and exhibitions.

3. There appears to be a need for improved communication, cooperation and coordination among agencies involved in soil, water and wetlands management.

Recommendation

That an interdisciplinary committee be established with representation from all agencies involved in soil, water and wetlands management, and that this committee be given responsibility for coordinating and integrating their respective programs for the benefit of all Saskatchewan. It is further suggested that committee members be selected based on their commitment to multi-use and sustainable development.

4. Farmers have indicated that they would like to practice more conservation techniques in an effort to conserve soil, water, wetland resources. However, due to their low return on investment during the 1980's, farmers have not been financially able to practice some of these conservation methods. The landowner needs to be compensated for protecting societal benefits that result from private land.

Recommendation

That the governments enable farmers to practice better conservation by ensuring that they receive a realistic return on their investment and that all Canadians assist financially in absorbing the costs of changes in land management. That the governments be encouraged to continue and increase assistance for reduction of farm costs, and also that the governments encourage research into products, machines, and farming practices that aid conservation and the prevention of soil degradation.

5. Farmers depend on their lands for their livelihood and way of life.

Recommendation

That the governments ensure water and land use decisions relating to the farmers' property remain with the farmer provided these uses comply with governmental water and land use policies.

6. The environment must be protected and enhanced for current and future generations.

Recommendation

That stricter controls on effluent release by urban, industrial and agricultural enterprises be developed and enforced, and that a rehabilitation program be developed to improve water that is presently polluted.

7. **Recommendation**

That Environmental Protection Regulations be reviewed, developed and upgraded where necessary, and that all environmental regulations be strictly enforced.

8. Some characteristics of the soil, water and wetlands resources of this Province have changed considerably.

Recommendation

That the Government of Saskatchewan ensure that hydrological, soil, wetlands and other biophysical information be continually improved and updated. This includes:

- updating hydrological information such as that used for flood forecasting. Many changes in watershed characteristics may have taken place. These changes would affect the quantity and quality of water released from a watershed;
- Saskatchewan lands should be inventoried, typed and classified to identify specific, unique and fragile land forms with a view to ensuring these for future generations;
- comprehensive review of wetlands including classification as to permanent and temporary wetlands and the quantity and quality necessary to maintain appropriate ecology and environment. Consideration should also be given to multiple use of resources. The consequences of the changes in these resources on the other aspects of the environment and on society should be determined.

9. **Recommendation**

That research be further encouraged to assist in solving soil, water and wetlands conservation and enhancement problems. The research should particularly be in the following areas:

- effective and economical conservation information and techniques;
- effects of soil, water and air pollution on health;
- effective ways of improving water, soil and wetland quality;
- effective use of agroforestry for sustained land use.

10. Farmers are not prepared to and should not be expected to shoulder the financial responsibility of hosting wildlife and waterfowl for the benefit of society in general.

Recommendation

That farmers be compensated for crop depredation by wildlife and waterfowl at 100 percent of the damage, with no ceiling; and that this compensation be paid promptly, with special interest groups contributing financially.

11. Some of Saskatchewan's marginal cultivated lands were originally broken to take advantage of the financial incentives available at the time.

Recommendation

It is recommended that programs based on acreage instead of production be reviewed and that the Provincial and Federal Governments be actively encouraged to develop an accelerated program to return marginal cultivated land and unproductive former wetlands to their near natural state.

12. A proactive approach is required to deal with the problem of unauthorized drainage.

Recommendation

That the Government of Saskatchewan review, further develop and enforce legislation to stop unauthorized drainage. This is in response to the paramount concern about this issue.

13. Small water bodies perform multi-use tasks such as providing for livestock, wildlife, recharge of groundwater, drought and flood proofing, and erosion prevention.

Recommendation

That a program be developed and promoted to retain small impoundments on creeks and water courses.

14. ### Recommendation

That measures currently in place to protect all permanent water bodies, lakes, rivers, and streams from exploitation right to the water's edge be enforced on Crown and private lands.

15. Unused and undeveloped road allowances and rights of way can have numerous beneficial roles including soil and water conservation and wildlife habitat preservation.

Recommendation

That Rural Municipalities be given incentives to reclaim cultivated road allowances and other public cultivated areas where agreeable and practical.

16. Recommendation

That Crown owned land, which acts as watersheds, wind and water erosion barriers, and wildlife habitat, be protected against unauthorized clearing and breaking.

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INTRODUCTION AND OBJECTIVES

Soil, water and wetlands are vital resources for the people of Saskatchewan. The management of these resources determines their capability to support activities and life now as well as in the future. The many issues and questions surrounding the management of soil, water and wetlands are becoming more critical as their availability and quality deteriorates.

The Government of Saskatchewan, recognizing the need for public input on this subject, appointed a five member Task Force to receive public input and write a report based on this information. In establishing the Task Force, the Honourable Herb Swan, Minister of Environment and Public Safety, defined the purpose as follows:

1. To hold public meetings to receive input from the public on soil, water and wetlands management in Saskatchewan;

2. To make recommendations appropriate to the subject.

The Task Force received briefs at public meetings held in April of 1989 at ten locations in Saskatchewan. Location sites were chosen to ensure that every region of the province was reached. A discussion paper by Don Young (1989) on Soil, Water, Wetlands was sent out in advance of the public meetings to stimulate thought on the issues. Briefs were presented orally at the meetings and the Task Force questioned the presenters for information and clarification. These briefs and discussion, as well as briefs received after the public meetings, are the basis of this report. The list of briefs and presenters is provided in Appendix 1.

Following the public meetings, the Task Force developed the framework for the report, selecting seven themes through which to present the information gleaned from the meetings. These are: agricultural economics, policies and programs; soil conservation and management; management of flood control, water and wetlands; education and communication; wildlife habitat and wildlife depredation; ecosystems and the environment; and social and health values. The following chapters develop each of these themes as they relate to soil, water and wetlands management in Saskatchewan.

CHAPTER 1

AGRICULTURAL ECONOMICS, POLICIES AND PROGRAMS

Introduction

This section examines the relationships between agriculture and soil, water and wetlands. It pays particular attention to agricultural economics, policies, programs, and conflicting legislation. The recommendations the Task Force received are described.

Saskatchewan is a large, diverse province in which each person is affected, either directly or indirectly, by three resources: soil, water and wetlands. Because of this, the vast majority of people presenting briefs and attending Task Force meetings felt the concept of multi-use must be maintained although they recognized that certain groups may have a more direct interest in one or more of these particular resources.

Due to the size and diversity of Saskatchewan, it may not be feasible to have all policies in effect for the whole province: the province should be broken down into regions with some policies tailored to these specific areas. What might be a necessary drainage project in northeastern Saskatchewan might not be practical or necessary in the southwest part of the province. There are also certain policies that deal with the Crop Insurance Program, quota systems, etc. that may have to remain fairly standard throughout the province.

Agriculture in Saskatchewan and the management of soil, water and wetlands are influenced by factors such as climate, public desire and attitudes, economic conditions and government policy. In an effort to survive on the farm, balancing between low commodity prices and high capital and input costs, the farmer is often forced to pursue certain farming practices and production goals that in the long run are detrimental to soil, water and wetland resources.

Soil Degradation

There is much talk of soil degradation and the need to look at some of today's farming practices that contribute to soil degradation as well as the reasons these practices are continuing.

Conventional summerfallowing has been identified by the Standing Committee on Agriculture, Fisheries and Forestry To The Senate Of Canada (1984), as one of the major practices leading to soil degradation. It is practiced because it is felt it aerates the soil, preserves moisture and controls weeds. However, summerfallowing breaks plant residue into small particles, reduces organic matter in the soil and makes the land subject to wind and water erosion.

Clearing and cultivating marginal lands also leads to the same type of erosion. Drainage, while good in some situations, can also lead to soil degradation. Soil degradation has had a serious effect on our province's ability to produce grain and forage.

"The fertility of our soils has declined by nearly half in the 70 years that we have farmed in Saskatchewan" (Meinert, Appendix 1).

In his paper on Soil, Water and Wetlands, Young (1989) asked the following question: "If soil degradation problems are so pervasive and widely acknowledged, then why is the land owner generally reluctant to embrace conservation programs?"

The obvious answer received by the Task Force was money. There simply is not enough return on investment on a Saskatchewan farm to practice the farming methods required for proper conservation. All farm participants in the meeting indicated they were willing and would like to change some of their farming practices if they were financially able to do so. In many circles, the farmer had been painted the villain in the situation. It was also indicated many times over that the farmer should not be expected to handle this burden of conservation by himself. All Canadians must share the cost of conservation.

"We do not consider the farmer to be the villain in this story. He may have been the agent in the degradation of Saskatchewan soil, water and wetlands, but only as part of a larger societal system that encouraged these actions. The flip side is that it is only the prairie farmer who can resolve the problems. He is the only agent available to restore the sustainable productivity to the landscape. The farmer cannot, nor should not, be expected to do this alone. It can only happen if farmers are part of a larger societal system working toward sustainable economic and environmental use of the land" (Patterson, App. 1).

Policies and Programs

There are existing government programs that play a part in current farming practices. Several briefs reflected the following comments. Present agricultural policies, programs and price support systems were designed in the past to respond to the increasing demands for Saskatchewan agricultural commodities. As a result, Saskatchewan farmers were encouraged toward more intensive and extensive production of grain. International subsidy wars, over production and depressed commodity prices, along with drought and high farm debt, have depressed the agricultural sector.

Some of the resultant government programs had the unintended effect of contributing to soil degradation. Today, farm cash-flow survival dictates that annual land use decisions are guided by maximizing production of commodities at virtually any cost.

Under the Canadian Wheat Board, a farmer's quota or ability to sell grain is based on cultivated acres. In areas of high productivity, this present system encourages farmers to cultivate as many acres as possible to increase their quota. This may lead to draining wetlands, clearing bush or breaking up grassland.

The Canadian Grain Stabilization program was designed to protect farmers from sharp drops in income. In so doing, it encourages production in high risk, low production marginal lands. In the past, it also discouraged crop diversification because some crops were not covered by the plan.

"In past years, the plan has paid out at a ratio of 10:1 or 11:1. It is therefore in the farmers' best interest to grow crops that qualify for the program to the maximum, so he could recover a maximum payout" (Esquirol, Appendix 1).

The tax system can, in some cases, contribute to soil degradation. Farmers can claim the cost of clearing and draining as farming expenses. While land clearing and drainage are justifiable in some cases and are legitimate business expenses, there are some situations where this work is being done solely for the purpose of saving tax.

The Crop Insurance Program is another program that came under fire at the Task Force meetings. It was felt by many that because marginal lands or lower class lands qualify for crop insurance, some farmers are breaking up and clearing this land and planting it to collect crop insurance.

Correcting the Problem

The cause of soil degradation and the fact that soil degradation is a major concern among all people of Saskatchewan has been identified. There has also been adequate explanation of why farmers practice the present farming methods: dollars and net farm income. Some of the programs encourage maximum dollars to a farmer while the farming practices mean minimum dollar outlay by the farmer; again all related to poor return on investment of Saskatchewan farmers.

The Task Force was told many times by presenters, and as stated in Mr. Young's report, "The Landowner should not be expected to supply societal benefits without direct compensation."

Assuming a farmer was going to receive adequate financial assistance, what could he do to correct the soil degradation process? Summerfallowing is one of the chief causes of soil degradation. Continuous cropping is one method to reduce summerfallow, however this is expensive due to the cost of fertilizer and chemical requirements and the usually poor yield in drier regions of the province reduce return to the farmer. Chemical fallow allows farmers to control weeds without disturbing the soil, however this method is also very expensive.

Wind and water erosion can be controlled by strip farming, planting shelterbelts, grassing waterways or planting cover crops instead of summerfallowing. The best way to prevent wind and soil erosion is to leave sensitive lands to their natural state or return them to their near natural state.

During the presentations and question periods it became evident that agriculture and wildlife are closely connected. In many situations the wildlife feeds on crops grown by farmers. Most farmers would tolerate this if they were getting 100 per cent crop loss compensation.

SUMMARY OF BRIEFS

1. There is a great deal of interest in and concern about soil, water and wetlands resources, with consensus that immediate change is needed in agricultural policies.

2. Certain policies and practices in agriculture, the backbone of the Saskatchewan economy, lead to a great deal of soil degradation, thereby costing the economy millions of dollars annually.

3. Saskatchewan has no choice but to implement the necessary changes related to soil, water and wetlands conservation because neither society nor farm economics will stand the present status quo.

4. A balance between economics and the ability of the land to produce must be found - this balance must be reached by all interested groups and the Government of Saskatchewan in an orderly, preconceived fashion.

CHAPTER 2

SOIL CONSERVATION AND MANAGEMENT

Introduction

The concern for and the importance of wise management and conservation of soils dominated many of the briefs presented in the discussion periods. Most people recognize society's dependence on soil and water and realize that once these valuable resources are lost, they may be permanently lost, or replaceable only at great cost.

This chapter is guided by the main themes in which soil management was addressed through briefs and discussions at the meetings. These topics include education, communication, research and technology, sustainable development, policies and programs. Numerous problems were presented and solutions were also indicated.

Many presenters stated that change is needed in the way natural resource management is viewed. Some suggested a more holistic and more global approach. Public participation is valuable, especially in assessing regional differences. It would therefore be worthwhile to search for solutions within a holistic, societal framework.

Presenters stated that wise management and conservation of soil does not stand apart from the management of water and wetlands. Improvements in one area often result in improvements in another; the environment is interwoven. Good management of soils, for example, results in cleaner water and air, improved vegetative cover and a better home for everyone, wildlife included. Alternatively, lack of conservation practices can reduce the water storage capacity of soils, its fertility, and thus its ability to sustain life. Poor soil management can also lead to erosion which in turn can result in deterioration of water, air, wetland resources and other aspects of the environment. Improvement of soil conservation practices often results in improved water and wetlands resources. This must be remembered while reviewing the other chapters as the linkages are significant. It is the reason that references to soil conservation also include water and wetlands in appropriate places in this chapter.

EDUCATION, COMMUNICATION, RESEARCH AND TECHNOLOGY

Many of the presenters indicated that the education system needs to provide much greater emphasis on understanding and conservation of natural ecosystems. Several stated that the education system would be the best area of emphasis for increasing awareness and that the parents would be educated by 'osmosis'. Others recognized that education of the general public is also required. Education of the public about the costs of not implementing conservation practices and the values of good conservation is very important. Some stated that the education process may be more suitable for the enhancement of conservation strategies than regulation alone.

More aspects of education, communication, research and technology related to water and wetlands as well as soil are discussed in Chapter Four.

Education and Awareness

What must be learned about soil conservation? This Task Force was told that the lessons of the thirties must be relearned as well as many more new concepts . Much more research must be accomplished and used as a basis for improving attitudes and counteracting the damage to the environment.

A conservation attitude should be created and encouraged by introducing conservation at all levels of education. It was said that there is a great demand for knowledge about soil and water resources and their conservation, yet not enough appropriate information is available. The public should have more information and it should be provided at the regional level.

We were told that people need to be made aware of the importance of conservation - that water and soil provide the basic needs for all living creatures, including humans. Education is of the utmost importance to help change policies and direction toward conservation and good management. The public needs to be educated and made aware of the problems we are faced with today and in the future, if appropriate conservation practices are not adopted. Presenters said that the importance of the environment needs to be stressed to the government. It is crucial for a healthier future for all concerned.

Positive messages that demonstrate the actual benefits of good soil and water conservation for everyone should be developed and disseminated. Awareness is the key to a conservation program. People must be made aware of the value and necessity of conservation and ways that they can contribute.

It is time to work together to minimize environmental degradation. This reqires the active participation of all concerned citizens.

Involve People in the Process

Many of the presenters were pleased to provide public participation in this Task Force process and affirmed the importance of public participation as a very significant issue. They provided a clear message that the public wants to be involved. If people are involved in the decision making process, they would help to make the changes possible, communication would be increased and regional differences could be addressed.

Research, Technology and Dissemination

Solutions to the serious problems of soil and water deterioration must be found. To do this, money and time is necessary for experts to conduct the type of problem solving research that is required. The long and short term effects and benefits could be significant.

Information from research activities is essential for the development of conservation technology. This includes strengthening research into economical and effective conservation techniques. Economics must be stressed as this is often the basis on which such management decisions are made.

Conservation awareness could be fostered through extension services. Key groups could be selected to test promising technology - thus these people could help to spread the knowledge. The responsibility for managing the fragile soil will require research, the newest of technology and the best adaptation of this technology. At least three briefs said there is a real role and demand for demonstration projects. This would show that a project can be economical and also that it can work in the local areas.

People told the Task Force that it is important to get to know your resource. Soil, hydrological and other land use related

information needs to be improved, updated and inventoried as soon as possible. Some characteristics of the environment have been drastically altered and these must be monitored, described and consequences must be assessed. This information should be made readily available to the public at the regional level.

Trees are a key factor in conserving soil, protecting the way soil absorbs water and restoring water supplies for sustainable development. It was recommended that areas outside as well as inside the commercial forest should be examined for their woodlot potentials. Research on agroforestry, woodlot product markets and woodlot management practices would not only improve the viability of woodlots but also enhance soil and water conservation.

There has been a large portion of Saskatchewan converted into agricultural production. There are two significant features of land management that affect conservation negatively. The first is that large amounts of land are left bare for periods of time in the year and the second is that the soil structure is broken up or pulverized. To continue production rates and to have a sustainable soil base, technological advances must be made. Some examples are: the development of technologies for pasture land renovations; drought resistant farming, including operations like stubble seeding and slow trap stripping; improved weed control measures and uses of weeds, etc. Such technological advances require effective research.

The Task Force was told that Saskatchewan may be poorly equipped with both information and technology to develop conservation. Research and development are required to support the development of conservation. Communication is essential for effective use of research. The research community needs feedback from the farmer regarding research needs. Research agencies and advisory committees need to communicate with farmers so that the results of past and current research can be implemented.

The Need for Intergovernmental Communication

There is concern that government departments and agencies are not communicating and interacting adequately on such issues as soil and water conservation. There may be duplication and disregard for what other branches are doing and the consequences of their actions. Policies should be created in coordination with other government agencies. All agencies must be sensitive to the need for management based on a multidisciplinary approach and those policies must be backed up

with enforceable legislation. Management of land and water is not a single discipline and our planning process must include input from all those concerned.

The coordination and cooperation among government agencies must be improved for the benefit of all Saskatchewan. It was stressed that a provincial workshop for all agencies currently involved in soil, water and wetlands information and management may be one way of encouraging interaction.

SUSTAINABLE DEVELOPMENT AND ITS ATTAINMENT

The briefs presented indicated that although the presenters were concerned with the current situation, they also have good memories of past problems and possible solutions, and they also have the ability to look well into the future. This led many people to say that we must ensure these resources remain available for future generations. An evaluation of the management of soil, water and wetlands is of fundamental importance to the future economic and environmental well being of Saskatchewan.

It is extremely important that the link between a healthy economy and the maintenance of a self-perpetuating resource base is recognized by governments and individuals. Sustainable development must be recognized for what it is: wise and judicious use of resources and careful treatment of natural systems so that maximum productivity is realized without degrading the base (Chekay, Appendix 1).

One presenter said that the problem is that we may have done more damage to our environment in the last 100 years than was done in the previous 100,000 years and it is our responsibility to correct it. It was said that we have to improve our act, because there may be serious consequences.

There is some indication that in more prosperous years, farmers may be able to pursue conservation themselves. However, presenters said that in drought years and/or years with low commodity prices, farmers abandon many conservation practices because of financial necessity. Conservation practices are very dependent on the individual's situation - resources, economics, education, etc. Solutions must consider these restrictions.

The Task Force asked who should pay for soil conservation? Presenters replied that the majority of farmers may be well versed in proper conservation practices, but are not able to follow them without assistance. All of us benefit from better conservation practices, therefore we should all share in the costs thereof.

There was a realization that soil, water and wetland conservation and revitalization may not only be cost efficient but would also be the basis for continued use of this land for generations to come. We must utilize our resources and environment today so that we do not damage the prospects for their use for future generations.

We heard that the agricultural economy is placed at risk with the deterioration of soil, water and wetland resources. The capability of the agricultural economy on the long term is dependent on wise soil and water management. Sustainable development of the agricultural economy is dependent on long term programs which protect our soil and water.

There is a need to understand the long term consequences of our actions. The environment should be viewed on a sustainable basis because we build our economy around our environment. The problem is that it is hard to keep farmer's goals aligned with conservation when they are trying to save their farms. This needs to be addressed by innovative and cooperative solutions.

POLICIES AND PROGRAMS

Policies and programs related to soil, water and wetlands are discussed more thoroughly in Chapter One but several aspects relating to soil are mentioned here.

We were told that communication, education, research and technology are keys to good management of soil, water and wetlands and should be made use of in enhancing policies directed toward conservation management. Organization and coordination of the efforts of individuals, nongovernmental organizations and government departments is required. The establishment of management organizations similar to the conservation district authorities and boards in Manitoba should also be considered.

The Issue

Many presenters told us any practice that retains, improves or creates land cover, including trees, bush, crops, stubble, wetlands, etc. will act to conserve soil and water. Soil erosion and degradation results in loss of valuable soil as well as environmental pollution, etc. Improvements are necessary to maintain resources for future generations. This includes retaining and improving vegetative cover. All policies and programs concerning breaking of marginal land need to be carefully examined to ensure they are not conflicting with this goal.

Briefs stated that much of the damage to our soil and water resources may have resulted from implementing disjointed, conflicting and often inappropriate policies. Any measure to repair the damage and conserve our resources for future generations must begin with the political will of this province's decision makers.

A comprehensive Saskatchewan Land Use Policy is needed that encourages land and water conservation in a manner responsive to the farming community. Presenters recommended that an objective should be to develop a comprehensive soil and water conservation policy in conjunction with and to be implemented at a local level.

Encouraging and Rewarding Conservation Practices

There are cost effective opportunities to restore the landscape for sustained economic and environmental benefits. Many presenters stated that Saskatchewan and its farmers do not need to shoulder the entire burden of improved management of natural resources. Changes in societal values and the marketplace may lead to additional conservation land use adjustments. More marginal land and more marsh areas that conserve soil could be regained and retained if the agencies could be more realistic to a true market value when approaching farmers to commit lands to long term leases or outright purchase.

Coordinated approaches and combined resources will make conservation more economical. We were told that finding economically viable and environmentally sound solutions to problems of soil deterioration is a tremendous challenge which requires coordinated action of all sectors. It must be clearly defined how individuals, organizations, and government can

contribute to this effort. New policies and programs must be instituted now. Governments must show strong leadership in this area if future generations are to be able to support themselves. Integrated land use management policies should be developed immediately, while the need for soil and water conservation and management is clearly in the public consciousness.

Government programs must be modified to include incentives for soil, water and wetland conservation and to be pointed toward sustainable development. We were told that this would provide immediate benefits to sustainable land use, diversify farm incomes, and result in overall savings to the taxpayer. The soil, water and wetland conservation initiatives called for in the discussion paper by Young (1989) should be considered for implementation.

There are farming practices, including livestock and different kinds of crops, that are environmentally appropriate on a given land base. We were informed that these practices are discouraged, however, by some programs. The use of environmentally sound crops and farming practices would protect the environment and should be encoupaged. Programs must signal the farmers to make land use decisions based on the suitability of their land and the environment. Farmers may know what is right for the land, but the land management decisions are dictated by economic realities of their industry, realities which are in turn influenced by government policy.

Presenters said that soil and water conservation, watershed restoration by grassing and planting, and erosion control should play a major role in a system that is now perceived to be designed mainly to facilitate water drainage.

The need for more trees was often heard. Shelterbelts and other tree plantings have an important role in soil conservation. Many thought there should be tree planting programs in their areas. Some suggestions about the agencies that should be responsible included Conservation and Development Authorities, Rural Municipalities, etc. There was also concern in the northern agricultural area about the effects of clearcutting of the northern forest. There was concern about the increasing amounts of erosion after cutting, and that there is not enough reforestation. Agriculture continues to push the forest fringe northward. This practice should be assessed in view of the capability and fragility of northern soils.

Some presenters said landowners are often reluctant to adopt conservation farming methods with additional associated costs. Financial assistance and other means of encouraging conservation measures such as tree plantings and the maintenance of treed areas should be emphasized. All levels of government should be involved. We must replant our forests and stabilize marginal land at every opportunity.

It was recommended that there should be tax credits and benefits to maintain natural lands and wetlands, and to decrease land degradation. Clearing marginal land and subsequent abuse of crop insurance for failures on marginal land should be addressed. The environment and the taxpayer are being robbed in these cases.

Laws are not the only answer; financial and other rewards for individuals are needed and education is necessary. Many farmers remarked that the economics of soil conservation is what is "breaking their backs at the present." The lowering of input costs would be beneficial.

Many realized the importance of marginal land being returned to grass and were in favour of the conversion of marginal land. Paying to keep marginal land out of production is advisable. There should be some way to take marginal land out of production and return it to its near natural state. The land conversion program was urged to take place as soon as possible.

We heard that all levels of government should actively encourage soil and water conservation. The benefits of conservation should be listed and everyone made aware of them. The public image of a government which supports conservation must be much higher than that of a government which simply pays subsidies. Conservation should in the long term increase incomes, and therefore income taxes paid to the government. What is necessary to return health to the land is bold action, a commitment to soil and water conservation, cooperative action and true stewardship of the land.

Conservation Positive Policies and Programs

The Task Force was told that it is crucial that Canada and Saskatchewan initiate programs designed to protect soils and their related waters. A cohesive, nationally consistent program with recognition of regional differences, and an acceptance of national principles may achieve this. Society benefits from good

management of soil and water and this must be recognized and emphasized.

All programs, policies, and institutions should be examined and modified to remove conservation negative aspects and to maintain or emphasize conservation positive aspects. Any program which is acreage based rather than production based is suspect.

It was recommended that more systematic development of soil, water and wetlands policy should be initiated with the cooperation of all Government departments involved. The problem is urgent and immediate solutions are needed. The involvement of individuals and organizations across the entire province, including the cities was recommended.

Rules, Regulations and their Enforcement

Some environmental rules and standards regarding the environment are already in place, but presenters said they are not always being followed and enforced. The reasons for this must be determined - from this we may be able to deduce solutions.

Rules may not be followed as they are too costly to implement - for example, not draining a very productive slough. However, these actions may be detrimental to society and society could act to share the responsibility of maintaining the original use of the land. If the complete value of wetlands, for example, was known and farmers compensated for their costs, both farmers and society would benefit.

In other cases there are no rules, for example, such as in the protection of the environment on private land. It was said that any future development of agricultural practice that does not benefit the environment must be seriously examined. Some regulation should also apply to tree removal. Tree removal should not be allowed without approval.

Who is responsible and who benefits? Governments and the public should take more responsibility in conservation of soils and water, especially in cases of government projects that may be harming the environment. The government is the leader and has to take the responsibility. It was often emphasized that everyone should carry the burden of protecting land and water resources because it is advantagaous to everyone.

Public Participation

Public participation is essential as commitment can result from knowledge and involvement. A brief stated that this should happen early in the process. For a policy and/or program to be successful it will have to be "farmer friendly, crop friendly, income friendly" and mainly pass the test of common sense.

We were told that it may be useful to expand the task force process, especially for the public participation, communication, and interaction. Participation of the public in environmental decision making is exemplified by the series of public meetings held for this Task Force. Society must learn the skills required to employ a process of participation. This also allows individuals to collectively articulate personal and community values and objectives and participate in building a sustainable foundation for the community.

The Task Force was cautioned about blanket policies - ones that attempted to provide for all of Saskatchewan. Diverse soil and water conditions should dictate the types of policies which are developed. One cannot stress too much the importance of local people having input.

Multidisciplinary/Interdisciplinary Approach and Communication

Many presenters stated that the committees regarding soil and water need some members with interests in all of the fields, not just specialists in one field. People that have a broad outlook are needed. Because degradation of many of the resources are interdependent, a global and integrated approach to resource management is needed.

Mutual cooperative problem solving is essential. It was stated that there is a need to develop a body that would oversee broad scale land use policies - a broad based group that reflects an integrated resource conservation approach not restricted to one sector of expertise. The common goal should be sustainable development of the land base.

Advisory groups to make recommendations must be politically impartial and composed of representatives from all over the province. Agencies with different areas of specialization should be brought together to discuss how soil, water, and wetlands can be managed for the betterment of all society.

Conservation Mission

A philosophy of management of our environment is required. A brief recommended that a mission statement regarding the protection of our precious resources would be the first step. The mission would be to create an environment that will enhance the sustainable development of Saskatchewan's resources. (Esquirol, Appendix I). The preservation of soil and water resources must be considered a high priority by all, with the government beginning the process by developing a conservation strategy and carefully monitoring the implementation of the strategy.

Diversification

Presenters reported that diversification can have a definite role in conservation. For example, livestock operations should be encouraged because we may have to grow grass to save our soil. The current subsidy system was said to be disadvantageous to ranchers. To resolve this problem, programs and policies must be changed to become livestock and/or diversification positive.

Regional Differences

Governments and the general public should have a better knowledge of the problems a farmer faces. Every region is different, hence the treatment of each needs to vary accordingly. Involving the people of the region in the discussions and decision making would help.

Excess water problems causing flooding and water erosion damage may be as much of a problem for the northern and northeastern agricultural areas as drought and wind erosion are in the south and southwest. Different areas of the province are of a considerably different nature on the long term as well as from year to year. It was frequently suggested that local representatives and more information about the physical environment would help to tailor solutions to regional differences.

SUMMARY OF BRIEFS

1. There is recognition of, and widespread concern about, the problems posed by insufficient conservation and management of soils, water and wetlands, and the threat posed by this.

2. There is awareness that immediate action is necessary to ensure that sufficient good quality resources and environment are left for future generations.

3. As environmental conditions are interwoven, solutions and problems of soil, water and wetlands management must be sought within a holistic interdisciplinary societal framework. Involvement from all appropriate government departments, concerned individuals, interest groups, researchers etc., should be sought.

4. The Task Force received a clear message that public participation is desired and necessary. For example, demonstration projects that involve farmers in testing promising technology is an effective method of knowledge and information dissemination and should be continued and enhanced.

5. Soil, hydrological and other land use related information needs to be improved, updated and inventoried quickly as some characteristics of the environment which have been drastically altered must be described and the consequences assessed. This information should be made available to the public at a regional level.

6. Enhanced production roles and a sustainable soil base are dependent on technological advances. Such advances require effective research, development and technology transfer.

7. Improved intergovernmental communications and interaction are necessary. Individual, nongovernmental and governmental efforts should be cooperative and integrated.

8. A comprehensive Saskatchewan Land Use Policy that is responsive to the farming community should be developed. Implementation should be at the local level. All policies and programs should be reviewed and modified to be conservation positive.

9. Costs of restoring the land for sustained economic and

environmental benefits should be shared among all beneficiaries. There are cost efficient methods to restore the land and these should be promoted and others sought.

10. Soil and water conservation, watershed restoration by grassing and planting, and erosion control should be actively encouraged, rewarded and promoted.

11. Diversification has a definite role in conservation of soil, water and wetlands and should be emphasized.

12. Cultivated marginal land should be returned to a natural state to avoid further soil loss and environmental degradation.

13. Environmental standards should be reviewed, developed and updated as well as strictly enforced.

14. The mission statements of Government Departments and other agencies involved should reflect the goals of conservation and sustainable development. These goals should be actively incorporated into their programs and policies.

15. The conservation and preservation of soil, water and wetlands should be given high priority.

16. Trees play a major role in conservation and sustainable development. Tree planting programs should be encouraged and promoted.

CHAPTER 3

MANAGEMENT OF FLOOD CONTROL, WATER AND WETLANDS

Introduction

Those who presented briefs to the Task Force stressed that water and soil are very valuable resources. They emphasized that because agriculture is a very important part of the Saskatchewan economy, programs for other land use must be planned in harmony to achieve a stable agricultural economy. Consensus was that the farmer should be in control of his land.

Presenters informed the Task Force that a large and diverse province like Saskatchewan needs different programs for different regions. Multi-use projects in which government and nongovernmental agencies work with farmers are essential. Key wetlands and wildlife habitat could be retained while productive agriculture land should be drained in time for the farmer to plant his crop. During periods of heavy rain these projects should be managed accordingly and funding should continue for these projects.

Current Policy

Information was provided on policies currently in place and the bodies which enact these policies. The Conservation and Development Area Authority Act of 1951 (CAA), and the Watershed Association Act of 1965 (WAA) were implemented by the Department Agriculture in recognition of the need for local representation within local drainage basins. In 1984, both the CAA and WAA came under the Saskatchewan Water Corporation.

Briefs explained that projects are initiated and planned by the local CAA with input provided from the Saskatchewan Water Corporation in the form of expertise, knowledge and direction. CAA's have multi-use projects, some of these have Ducks Unlimited Canada (DU) involvement, and also have back flood irrigation. The Saskatchewan Water Corporation determines cost-effectiveness of the proposals and also determines if there will be any detrimental effects downstream. If the project is found not feasible or cost-effective, it does not proceed. Before projects get final approval, the Plans are submitted to the Saskatchewan Wetlands Technical Advisory Committee which has representation from the Saskatchewan Water Corporation, and

the Departments of Rural Development; Parks, Recreation and Culture; Environment and Public Safety and Agriculture and Food.

Drainage

We were informed that records show that the first drainage was undertaken by the Northwest Drainage Ordinances. Contrary to popular belief, drainage is not a recent phenomenon.

Presenters indicated that Wildlife Associations and Ducks Unlimited are asking Government to cut spending for drainage. Others said that this could affect CAA's who organize flood control and look after water erosion. Lack of funds would create more unauthorized drainage. Some presenters blame CAA's for unauthorized drainage.

People told us unauthorized drainage is a problem which will get worse in times of increased run-off. Stiffer penalties, more enforcement of the present law, faster turn around time for permits and more authorized drainage were suggested. When farmers' land gets flooded, they act individually. Stress was placed on the fact that "water is very valuable if it's in the right place in the right amount and at the right time" (Canning, Appendix I).

Some presenters said decline in waterfowl numbers is a result of very dry climatic conditions; wildlife agencies are blaming agriculture.

At the Southeast meeting, there was a good attendance; most people with written and oral briefs were strongly in favour of the Alameda and Rafferty Dams being built. There was also favourable mention of this initiative at two other meetings.

The Task Force was informed that some landowners support the concept of habitat for wildlife and waterfowl, encouraging neighbours to put some land aside while draining their own - a very obvious practice.

In summary, participants said that the present law regarding unauthorized drainage is ineffective, but that Courts do not provide answers. Some farmers are said to have developed the attitude, "If you can't stop them, join them."

A solution proposed in some briefs is to have government

and self-interest groups working together to establish new Conservation Authority or Watershed Association drainage basins where feasible, providing financial incentives to preserve multi-use projects such as grassing marginal land for habitat, pasture or hay, retaining wetlands and managing water from agricultural land.

Wetlands

Presenters questioned the Ducks Unlimited practice of having water levels lowered in an attempt to provide a marsh for waterfowl. In the dry years there is no water in the marsh. There were strong suggestions that those affected by wildlife and waterfowl depredation should be fully compensated. Presenters said that better public relations, with good attitudes toward farmers, and a realistic value paid for land or land lease would make it easier to obtain land and wetlands for wildlife and waterfowl habitat.

Responsibility for Soil and Water Conservation

It was said that all responsibility for soil and water conservation cannot be placed on the farmers as all society benefits from better conservation practices. Therefore, society in general should share in the costs. There is a concern with the increase in waterfowl and the problems this will create for crop producers. Governments, North American Wildlife Management Plan (NAWMP), Ducks Unlimited and other agencies should be willing to participate in financing compensation.

There is concern that foreign funding is being accepted and allowed to determine the future and fortunes of our agriculture. It was stressed very strongly that final decisions on our land and water resources should remain with local farmers and government bodies.

Proposed Solutions

It was suggested that CAA ditches, creeks, waterways and water bodies have grass or trees alongside acting as a filter to help prevent soil from getting into the streams.

Towns are experiencing problems with water facilities and lagoons and they say funding is needed from the Saskatchewan Water Corporation. The Saskatchewan Water Corporation does provide some engineering service and advice, and grants are

available if water works and lagoons are built to a certain standard. It was mentioned that the Saskatchewan Water Corporation is doing a good job and is working together with the Prairie Farm Rehabilitation Association on different projects. There were several suggestions that more research and education is needed on ways and means of getting society to conserve water.

SUMMARY OF BRIEFS

1. Saskatchewan needs different water management programs for different regions.

2. Agriculture is a very important part of the Saskatchewan economy, therefore programs or policies for land use should be encouraged and planned in harmony with the farming communities to achieve a stable agricultural economy.

3. Some agencies believe that, due to the work of CAA's, habitat and wetlands have been reduced, others said very dry climatic conditions are the cause.

4. Unauthorized drainage is a real problem and needs to be addressed; faster turn around time for permits and more authorized drainage were suggested.

5. There is a real concern that foreign funding is being accepted and allowed to determine the future and fortunes of our agriculture. It was stressed very strongly that final decisions on our land and water resources should remain with local farmers and government bodies.

6. It was proposed that the government and self-interest groups work with farming communities to establish new Conservation Area Authorities and/or Watershed Association Drainage basins where feasible.

7. Farmers are very concerned when self-interest groups want to control what is being done to the land they farm.

8. Better public relations, with good attitudes toward farmers, and a realistic value, paid for land or land lease would make it easier to obtain land and wetlands for wildlife and waterfowl habitat.

9. Society in general has farmers producing cheap food yet this same society asks farmers to also supply cheap food and habitat for wildlife and waterfowl.

CHAPTER 4

EDUCATION AND COMMUNICATION

Introduction

Saskatchewan people presented a variety of concerns and proposed solutions. One of the main themes that emerged was a feeling that Saskatchewan citizens are not sufficiently aware of what is happening in soil, water and wetlands management. Several briefs presented ideas on information dissemination and the importance of providing this information to the youth, general public, and farmers. Most participants dealt with soil, water and wetlands together as part of a conservation package; this chapter deals with these issues in a similar manner.

Education

Education is of vital concern; the subject was addressed at all task force meetings by a great variety of people with widely different backgrounds. This issue was approached in a general sense by some while others directed remarks to a specific group. We were told that the public is not sufficiently educated about what is happening in agriculture. This contributes to the feeling that there sometimes appears to be little interest in what is occurring today. Education is needed which provides the general public with factual information on farming practices and requirements. This is seen as key in achieving attitudinal changes needed to achieve better soil, water and wetlands conservation. The problems that will be faced if conservation management practices are not adopted have to be addressed and brought to the attention of the public.

The Task Force was assured that the public recognizes there is a need for knowledge about soil, water resources and conservation issues, and that they believe it is important to develop and implement a public education policy. Some initiatives are occurring in this area. The Saskatchewan Wildlife Federation's Project Wild and National Wildlife Week are examples of the types of programs this group developed to increase awareness and educate the public on some of their concerns. These problems included land use policy issues which came up many times in the meetings.

The need for education and awareness of wise use of soil and water resources was addressed by many people. The

rationale for this was best summed up by a presenter who reminded us that the pursuit of the common good requires community knowledge.

Educating the Youth

The education of youth was approached from a wide variety of angles. While different groups stressed a wildlife, an environmental or an agricultural approach, all of these mesh under the topic soil, water and wetlands management concerns. The ideas and suggestions for education dealt with soil and water resources and how to conserve them. It is impossible to look at these issues without remaining cognizant that agricultural and wildlife concerns often overlap environmental concerns. The Task Force was reminded that conservation is the wise use of a resource and that this involves some wildlife and agricultural issues.

Education of young people in the school system was addressed, recognizing that today's youth are tomorrow's policy makers. One presenter, familiar with working in the schools, was appalled by the lack of emphasis the school system places on Saskatchewan soil and water resources and the agriculture economy. It is felt that education on farming practices should be in the curriculum. Similarly, the subject of the science curriculum was brought up by many presenters. The Task Force was asked to direct the attention of the Department of Education toward the subject of soil and water; the timing is particularly appropriate as a curriculum review is currently underway. The point was stressed that something should be done to emphasize the importance of the land to everyone. The Task Force was informed that the Saskatchewan Association of Rural Municipalities (SARM) has made many presentations about the need to inform people about incorporating agriculture in the curriculum.

Many examples were given of how an awareness and education program could work. It was felt that it should begin in kindergarten and have hands-on structured curriculum experiences through all grades. Some presenters gave an example of the environmental awareness program, Project Wild, that has been used in the schools. This program integrates an environmental philosophy into existing education - hence this program should not take extra time as it works into current practice and is not an extra subject. Project Wild has not been used effectively despite the fact that 30% of teachers have received courses in the program.

Other groups also have educational programs on the environment in the wildlife and natural habitat areas; one is Ducks Unlimited. While some felt this program had an agriculture awareness section and had no trouble with this, others felt their presentation is biased. It is felt that a program supported by either 'wetlands' or 'drainage' interests should be watched as a balance must be achieved. A positive attitude to conservation must be presented as children tend to move into "anti-circles" (Example: anti-hunting). Education should provide skills for an unbiased, fair assessment.

Other information aimed at school age children includes: Project Learning Tree, Material from Soil and Water Conservation of America, and Project 2000. The Science Council of Canada has a series of books and recommendations on the science curriculum.

We were told that there are too few resource skills present and not enough readily available information for the rural school system. In one area this problem was addressed by an urban park board providing workshops and conducting some education in urban and rural schools.

Curriculum changes and teacher education were highlighted by many as paving the way for change in soil and water management for the future. The Task Force was informed that teachers need adequate background and that the programs recommended need ongoing update. There are long term advantages in the education of children. The knowledge they acquire spreads to their parents and encourages landowners to conserve for the benefit of the next generation.

A concern mentioned involving the education of children is the question of whether conservation knowledge acquired in school is reinforced at home, i.e, how many parents take their children out in the country. There remains the challenge to parents to help children take their knowledge away from school and apply it.

Adult and Public Education

Adult education was dealt with differently than the education of youth. Education is seen as necessary as an agent to produce change -- change that is needed to better care for soil, water and wetlands resources. Change in the marketplace is felt to be inevitable. Farmers have traditionally adapted well to the changing marketplace but it is felt that education would stimulate change coming from their direction too.

Education was a frequent topic in terms of farmers and the general public. Educating the public about the costs of poor conservation practices is very important. The producer has a problem and the urbanite has no idea of what is happening. Using 'shorts' in theatres was one method suggested to get the message out. Presenters stressed the importance of a positive message that shows the benefits of good soil and water conservation, and scare tactics were frowned upon. A combination of good public relations and good information was considered the ideal. The urgency of educating adults was underlined, as there is no time to waste. Consumer training is needed as food costs may rise if proper soil conservation measures are implemented.

An awareness of conservation was felt to be key. Extension of research knowledge to farmers through demonstration projects is important, the feeling being that if certain farmers test promising technology the information would trickle to other farmers. In a small town news gets around. If something is done in a field that looks good, neighbours will ask questions. Demonstration projects in local areas showing real progress were felt essential in passing on conservation knowledge. Another method of getting information out to farmers is through farm newspapers. An agriculturally oriented research group, PAMI (Prairie Agricultural Machinery Institute), gets its information out through equipment review sheets to their subscribers as well as through clinics, seminars and trade shows. They feel it is essential that researchers get their information out to the people. Rural Municipalities have a role in educating farmers. One of the presenters felt education for farmers can prove that conservation and organic farming is economically viable.

Proposed Education Programs

Two new ideas that relate to education in soil, water and wetland management were presented. Although an appropriate range of subjects can be studied there is no degree program in conservation available. Another interesting idea is the formation of a Soil and Water Conservation Foundation. Through this body, interest from provincial funds and private donations could be dispersed for scholarships to encourage better conservation knowledge.

Research is closely related to education. Research is required to relate an environmental strategy to farming. People realize that some money has to be laid aside for research to give experts a chance to find some answers to problems in our soil and water resources.

Conservation Education for Farmers

Presenters concurred that farmers need conservation education and discussed the various ways in which farmers receive information. Demonstration projects at the local level appear to be a good way of showing conservation techniques and their values, however research must be done to ensure that these projects are worthwhile. Articles printed in newspapers also reach a wide audience. It was suggested that local rural municipalities could put on conferences. Agriculture Development and Diversification Boards are already being formed under the department of Rural Development. Soil conservation is a major concern of these boards.

COMMUNICATION

Communication, defined as the interchange of information, comprises the second portion of this chapter. Some of the briefs received dealt with communication and the need for the effectively presented information so that it is utilized in the best possible manner. The briefs discussed communication concerning nongovernmental organizations (NG0), government agencies, and the general public. The positive feelings and the gaps suggested to the Task Force are included in this section. Many of the presenters also considered the methods by which people communicate to be a significant factor. Example: reams of printed information is available but people have to take time to read it.

Nongovernmental Organizations

The submissions varied greatly in the way they dealt with the issue of communication. Sometimes a specific group was named but often a general approach was used. Ducks Unlimited Canada (DU) described how they were changing directions to work more closely with agricultural organizations on upland issues. They are talking to people about how wildlife and agriculture can co-exist on the landscape. An openness to working with a group whose viewpoints may be different improves chances for good communication. Participants said that wildlife groups should build on cooperation that already does exist with farmers and make their projects into a showcase. This approach would help the wildlife group spread their message. This cooperation does exist on some levels - a participant in one of the meetings said he had never seen a duck and a cow fight!

Wildlife and agriculture communication patterns were addressed by many. A Saskatchewan Wildlife Federation submission stated their feeling that the adversarial stance must be replaced by a cooperative and honest assessment of their position and goals. Ducks Unlimited Canada found that the ongoing programs within agriculture and wildlife fostered a great deal of cooperation. A win/win situation was considered possible by the wildlife oriented groups. The Soil, Water and Wetlands discussion paper addressed many land use issues, stressing that cooperation of all parties is essential. To achieve this spirit of working together, various groups and interests must be able to exchange their ideas. A need for mutual cooperative problem solving between agriculture and wildlife was recognized as they face common issues and sustainable development of land use is their common goal.

This communication between nongovernmental organizations and the landowner (as an example of an agricultural interest) is not an easy thing to start or to maintain. Everyone enters into a relationship with a goal in mind and laying aside these for the common good is difficult.

While travelling around the province we were presented with an interesting range of opinions on how NGO's work with the agricultural community. In some areas, cooperation was found to be excellent while in another area it seemed impossible for a landowner to accept their project.

NGO's recognize the value of communication with other interests because it is essential to their existence. Two ideas for improving the ways agriculture and wildlife groups work together were put forward.

In one meeting, waste management in a town was discussed. They wish to use a cat-tail marsh as part of a natural waste water management program. As these attract waterfowl this could be the type of project in which groups could cooperate. It was also mentioned that the Task Force itself encouraged communication as different opinions were brought together. It was recommended that various agencies with different views be brought together at the local level to work for the betterment of both.

Communication with the farming community is important to agricultural research groups. A close relationship is necessary to determine the research needs and then to later assure the workability of the production technology.

Policy Formation

Policy formation and the process whereby the will of the people gets reflected in that policy was of concern. The public needs to have input in policy for land use. It was emphasized that public input should be from the local people and that those local feelings should be considered when developing policies for managing soil and water resources. One of the most encouraging examples of good communication that we heard was at the grassroots level. In one area good rural and urban cooperation was present where both were working on a mutually beneficial project.

Interchange of Information

The interchange of information among levels of government and within government levels themselves was addressed. People stated cooperation was excellent among organizations and departments where there are common goals but that they may not communicate about other subjects.

Participants said that there is a need for better understanding and cooperation among government departments and a show of hands at the meeting supported a feeling of too much duplication and not enough understanding among departments. A solution to this problem was suggested in Moose Jaw. The Task Force was asked to call for a provincial workshop of all agencies currently involved in soil, water and wetlands management with the task of coordinating and integrating their programs for the benefit of all.

The formation of a conservation corporation was suggested as a solution to part of the communication trouble in the conservation area. This approach was favored by some but others suggested a new government conservation body should only be considered if current bodies are not adequate to fulfill the program.

The issue of federal-provincial cooperation was addressed. There is room for rationalization among federal and provincial departments to streamline use of soil and water resources in Saskatchewan. Presenters used the PFRA and Saskatchewan Water Corporation relationship as examples of both cooperation and duplication of services. Planned transfer of some responsibility to Sask Water has been put on hold and one area

irrigation project is glad of that. In this area local people do not want the federal to provincial transfer although this would appear to have water use issues dealt with more efficiently.

SUMMARY OF BRIEFS

1. A high priority is placed on enhanced education that provides the general public with factual information on farming practices and requirements. This is key in achieving attitudinal changes needed to achieve better soil, water and wetlands conservation. The problems that will result if conservation management practices are not adopted have to be addressed and brought to the attention of the public.

2. A public education policy needs to be developed and implemented that results in increased knowledge about soil, water resources and conservation issues.

3. Agricultural and wildlife concerns often overlap environmental concerns, and all of these come together under soil, water and wetlands management concerns.

4. Conservation is described as the wise use of a resource. Wise use of resources involves some wildlife and agricultural issues.

5. As a curriculum review is currently underway, the time is opportune to ensure that soil and water resource issues are addressed.

6. Education programs geared specifically for adults (the general public and farmers) are needed. Adult education differs from that of children and the method of delivery must be different. A combination of good information and good public relations was considered the ideal, using a positive and proactive approach.

7. Consumer education related to farm economics is needed as food costs may rise if proper soil conservation measures are implemented.

8. It is important to improve on the process of communication to make it work between groups and individuals. Nongovernmental groups and organizations recognize the need to work closely with all interest groups. They advocate an open and cooperative approach to exchanging information and ideas.

9. The multi-use process to using resources is advocated. There is a need for mutual, cooperative problem solving between agriculture and wildlife groups as these organizations face

common issues and sustainable development of land use is their common goal.

10. Presenters indicated their concern that urbanites, nongovernmental organizations and government officials could better recognize and understand the problems faced by farmers and vice versa.

11. Communication with the farming community is vital to improve the effectiveness and the appropriateness of research group activity. A close relationship is necessary to determine the research needs and assure the workability of the production technology.

12. There is a need for public input in developing and implementing policy for land use, and in managing soil and water resources.

13. Better understanding and cooperation among government departments and agencies is necessary. Coordination and integration of government departments is needed because government agencies are not seen as communicating with each other. There is a need for vested responsibility to ensure that various departments regularly review their programs together. One suggestion was that a Conservation Corporation be formed.

CHAPTER 5

WILDLIFE HABITAT AND WILDLIFE DEPREDATION

Introduction

Briefs received from all areas of the province expressed varied concerns and opinions on the subject of wildlife habitat and depredation. It was evident that different areas of our diverse province have different problems and different interests, resulting in different recommendations.

Saskatchewan has been internationally renowned for its bountiful supply of fish and wildlife. Most of the briefs expressed fear that this resource would be lost if policies and attitudes did not change and that time is of the essence. Much has been lost and we are continuing to degrade our resource base at an accelerated rate.

It was pointed out that fish and wildlife numbers are directly proportionate to the quality and quantity of their habitat. When wildlife lands are lost to other users and when waters are polluted or drained, fish and wildlife numbers decrease and will not return until their habitat is returned.

Marginal and Sub-Marginal Lands

The subject that dominated the vast array of concerns was marginal and sub-marginal lands, whether they were originally uplands or drained wetlands. Nine briefs were critical of government policies and programs that promoted cultivation of marginal land as it is this land that has provided the main home for birds and animals.

Twenty briefs indicated that programs and financial considerations should be used to get marginal and sub-marginal lands back to grass, forage and wetlands. A brief suggested that farmers on marginal land be encouraged to trade for good farming land that is now being sold by government and financial institutions - suggesting "geographical grasslands for geographical grainlands " (Geesen, Appendix 1). Marginal lands could, in turn, be reseeded to grass and sold to ranchers or be held in trust as public wildlife lands. They emphasized that return of marginal lands from cultivation could only be achieved through financial incentives.

"It is the farmer who is producing wildlife at private expense for public benefit and if you can bring some of those benefits back to the farm gate, in terms of income, every program in the country will be oversubscribed by landowners voluntarily wanting to get involved " (Patterson, Appendix 1).

Another quote that expressed this opinion was "Subsidies to leave marginal land will never equal agricultural subsidies for broken marginal land" (Elliott, Appendix 1).

Comprehensive Policy is Needed

Respondents felt there were too many single use policies, and called for a comprehensive land use policy that encouraged multi-use. They stated that this policy or policies should be formulated by representation from the various interest groups, and that once developed, a Steering Committee comprised of the various user and interest groups, be established. It was mentioned that the policies would have to reflect a regional basis and that there should be a relationship between wise use and productivity with emphasis on maximum sustainable development of our resources. This was underlined by the statement: "May it not be short term gain for long term pain " (Stuart, Appendix 1).

Although most of the presenters were alarmed at the great loss of habitat on private land, they did agree in most cases that these decisions should remain with the landowner. They did not agree, however, with the agricultural exploitation of public property such as unused road allowances. The clearing and breaking of this property for the gain of a select few removed valuable erosion barriers, watersheds, habitat and natural beauty. In many cases these road allowances are the only natural areas left in a vast sea of cultivated land. Some briefs suggested an accelerated tree planting program, in particular on marginal lands that had been taken out of cultivation. Benefits could be seen toward wildlife, reinstating watersheds and preventing wind and water erosion. It was suggested that agencies such as rural municipalities, conservation and development groups and wildlife organizations could assist government in a meaningful tree planting program.

Responsibility for this was best summed up with the following statement, "It is a public moral responsibility to conserve our natural resources " (Begin, Appendix 1).

Water

Many briefs emphasized that water is a precious resource and that all life depends upon water - and "the more water, the more wildlife" (Broeder, Appendix 1). Some briefs suggested that there be impact studies with public participation before any water projects are licensed. There is considerable concern about the pollution and contamination of lakes, rivers and streams caused by agricultural practices and urban waste. Water quality directly impacts on fish numbers and their ability to reproduce. The practice of removing trees and vegetation right to the water's edge has been all too prevalent, thus destroying the natural filter system to remove silt and pollutants. Fish farming was considered an alternative to draining water bodies.

Wetlands

Wetlands dominated some public hearings and was certainly the most controversial subject, especially between wildlife groups and conservation and development authorities. With one exception, all briefs supported wetlands conservation concepts. Briefs addressed the tremendous loss of wetlands, in some areas as high as 90 per cent, with millions of acres lost throughout the prairies. Suggested solutions ranged from no further net loss of wetlands to arriving at a target of wetlands area. They asked for inventories of wetlands and a comprehensive evaluation of the resource and its importance to the economy. In some cases, a multi-use concept was recommended. Some said that lost wetlands should be replaced and sloughs that have proven to be marginal cultivated land should be flooded. Opinions were expressed that wetlands retention would benefit all of society in maintaining water tables, improving climatic conditions, providing erosion control, livestock feed and water, wildlife habitat, recreation, tourism and water quality improvement.

Large dams were criticized because of habitat losses in the reservoir. With the exception of fish, such reservoirs do not show wildlife benefits such as would a series of small impoundments of shallow water. Several briefs approved of the concept of impounding water along creeks and natural runways. This could be important where water is being drained from good agricultural land. This method of saving water would be especially beneficial to wildlife, waterfowl, livestock and water tables. Channelization was challenged because of downstream flooding, loss of spawning beds, loss of waterfowl nesting sites and destruction of natural beauty.

Drainage

Drainage programs were a real bone of contention but all agreed that unauthorized drainage was a real threat. Some called for stricter regulations and penalties but it was pointed out that we either can't or won't enforce the laws we now have pertaining to unauthorized drainage. It was basically agreed that wetlands should be defined as either permanent or temporary and that there was an important difference between Crown and privately owned wetlands. Some demanded that there be no public subsidization of private drainage where others wanted subsidization of organized drainage. Criticism was leveled at drainage of Crown wetlands to enhance private property values while others blamed Crown lands for causing their flooding problems. It was noted that while the provincial government spends vast sums on drainage projects, on the other hand, the North American Waterfowl Management Plan will supposedly spend over one-half billion dollars to retain wetlands in this province.

Compensation

Compensation for wildlife and waterfowl depredation had an important bearing on the way people viewed wetlands retention. Almost everyone criticized the compensation program. Inadequate compensation has caused farmer animosity and prompted wetlands drainage. Many agreed that there should be l00 per cent payment for crop loss due to wildlife and waterfowl damage. Some felt that 80 per cent of the damage total was sufficient. All agreed that compensation should be paid on the total loss and not be on an acreage basis and that there be no ceiling for claims. Almost all respondents indicated that if they could be assured that they would suffer no financial losses to wildlife depredation they would have no objection to wildlife projects and retention of permanent water bodies. It was agreed that damage payments were delayed far too long. Some farmers felt that present wetlands retention programs were not offering nearly enough financial consideration.

Summary Statement

In summation, participants expressed an overall concern for our natural resources, a deep desire to halt their destruction, and a wish for cooperation, understanding and fair play. They recommended that all proposed resource related projects be considered by all users to ensure long term benefits, and indicated a desire to achieve sustainable development of natural resources to ensure future prosperity and enjoyment.

SUMMARY OF BRIEFS

1. The cultivated marginal lands of Saskatchewan should be returned to grass, forage, or wetlands and uses other than grain production should be encouraged for these lands.

2. A comprehensive land use policy is needed that encourages multi-use and considers the needs of all interests.

3. Policies should reflect a regional development basis with a relationship between wise use and productivity, with emphasis on maximum long term sustainable development.

4. Positive programs should be instituted to promote replacement of lost vegetation, trees and wetlands on marginal land and retention of our remaining undeveloped land and wetland areas.

5. There is a need to review and update wetlands classifications in regard to permanent or temporary status. This would improve decision making for future projects.

6. More public input is necessary on water related projects that impact on Crown land and/or Crown wetlands.

7. Adequate and prompt compensation for wildlife damages, paid promptly to the farmer, is necessary.

8. Crown owned property such as road allowances should not be exploited for grain crop production and should be left for conservation oriented uses in areas where this is practical and approved by the local rural municipality.

9. A majority of the people in the province care about wildlife, nature and natural resources. Some people exploit these resources because of financial considerations. If given reasonable financial compensation, they would willingly support conservation-wise practices.

10. Unauthorized drainage is seen as the main culprit to most wetlands and water problems, and some means must be found to curtail this practice.

11. Some measures are in place to protect lakes, rivers, streams, and water bodies on Crown land against clearing right to water's edge. Private lands remain vulnerable to water edge exploitation.

12. Permanent water bodies should be retained and good agricultural land should be protected against flooding.

CHAPTER 6

ECOSYSTEMS AND THE ENVIRONMENT

Introduction

The briefs received showed great concern for the environment in which we live and the need for abundant clean air and clean water. Although the submissions were mostly concerned about the ecosystems and environment of Saskatchewan, they also stressed that Saskatchewan is part of a global environment and a global economy.

Many of the briefs raised questions about quality of life and the social appreciation of nature, stating that the quantity and quality of natural areas directly affect the quality of life. They advocate living in harmony with the environment, which means balancing natures' needs with our own.

One person questioned the rights of politicians and bureaucrats to allow the destruction of our soil, water and wetlands, stating that "nature will balance itself if you give it a chance" (Sloan, Appendix 1).

The Environment

The Task Force was told that the people of this province are still close to nature. Because we are an outdoor society where nature and the environment are of utmost importance, there is a need to develop an economy that can exist within the environment. The environment should be viewed on a sustainable basis, or, as one presenter said, "It is time we took a hard look at Saskatchewan and made some decisions about what we value most. This must be done in terms of quality of our social environment and our natural environment" (Armitage, Appendix 1).

Several briefs emphasized the huge losses of habitat due to clearing and draining have severely impacted our environment. It was stated that a task force should be appointed to develop standards that are appropriate to environmental protection. These standards would be definite and irrevocable with specific maximum limits and minimum allowances. A government environmental enforcement agency should be formed with the authority to enforce those standards (Sloan, Appendix 1).

Railroads came under attack for clearing and burning as

well as people who indiscriminately burn grass, bush and stubble which creates air pollution.

The exploitation of marginal lands for grain production was cited as a main cause of environmental damage. Marginal lands are prone to rapid deterioration after breaking, resulting in excessive wind and water erosion. The briefs urged that these cultivated marginal lands be seeded back to grass, forage, bush and trees and used for ranching and wildlife. The presenters stressed that a system and incentives for returning cultivated marginal land to grass should be developed and that present agricultural incentives encouraged marginal land exploitation.

The statement was made that water is a valuable resource provided it is in the right place in the right amount at the right time (Canning, Appendix 1).

This statement was made concerning the northeast region where excess water can be a problem but Saskatchewan is such a diverse province and the needs and availability of water can show great variance. One accusation was that water resources tend to be over-developed and there is a direct connection between surface water and groundwater supplies (Stewart, Appendix 1). Southern briefs stated that we are a dry province and should not hurry our water out of Saskatchewan because we are now reaching the limits of surface and groundwater supplies. More northerly areas expressed the desire to get water removed from good land and store it on marginal wetlands. "Water attracts water" was one environmental consideration (Jabush, Young, Watkinson: Appendix 1).

Ecological Considerations

An ecological concern was the pollution of our lakes, rivers, streams and wetlands with urban sewage and industrial and agricultural wastes. In connection with this pollution was the practice of agricultural and forestry development right to the water's edge which resulted in the loss of a filtering process.

Agricultural practices came under fire for removal of too much bush and vegetation, for breaking of marginal land and draining water bodies. It was felt that excessive drainage had drastically reduced groundwater tables and had resulted in aggravation of arid climatic conditions. It was recommended that financial incentives be instituted to return natural erosion barriers such as trees, shrubs and grass and to return unused road allowances to their natural state. There should be a

multi-use concept for land use considering environmental, social, recreational and wildlife use. It was further recommended that hydrological information should be updated and that the wetland ecology should be a subject for educators.

It is integral to emphasize the importance of wetlands: "Wetlands provide numerous benefits to society. Wetlands store runoff and the chemicals and nutrients that runoff contains. This reduces downstream flood damage and eutrophication. Wetlands and their peripheral vegetation reduce soil erosion by wind and water. Wetlands recharge aquifers that are water supply sources for many prairie residents. Wetlands provide wildlife habitat that is important to naturalists, hunters, trappers and fishermen" (Fuller, Appendix 1).

Summary Statement

In reviewing the briefs, it was evident that the ecology and environment of our province were relative to all other considerations. Everyone wants an abundance of clean air and clean water, and a place to live that is never far from unspoiled natural areas - a place to hunt, fish or relax in appealing surroundings.

The general feeling seemed to be that time is running out and that we had better start doing something about it, right now, while we have a reasonable resource base.

SUMMARY OF BRIEFS

1. Environmental Standards should be reviewed, developed, implemented, and strictly enforced.

2. Everyone wants clean air, clean water and natural areas conducive to enjoying the outdoor experiences that have been taken for granted in the past.

3. Saskatchewan is now approaching a point of no return in regard to our ecology and environment. Although a reasonable natural resource base remains, unless we change direction, the resource base will be eroded beyond return. We should live in harmony with our environment and balance our needs with nature.

4. The return of cultivated marginal land to its near natural state would reverse environmental damage created by cultivation. This would include both wetlands and uplands.

5. Water should be used more efficiently and our share kept within the province for many reasons, including a relief of our arid climatic conditions. Water is the basis of all life.

6. Lakes, rivers, streams and all water bodies must be kept free of pollution and those waters that are polluted need to be improved. There is a need for more strict pollution control standards and for more strict enforcement of those standards.

7. Future development should not have a detrimental effect on the environment. There has been too narrow a point of view when assessing specific projects. Multi-use must be considered and consideration given to other users and interests.

8. The wetlands question must be addressed in terms of the quality and quantity needed to maintain an ecological and environmental balance. There is a fear that we've already gone too far. Inventories and classifications are urgently needed. Drained wetlands that have proven unfit for cultivation should be taken out of cultivation.

9. There appears to be a controversy over public funding of private agricultural practices and especially drainage.

CHAPTER 7

SOCIAL AND HEALTH VALUES

Introduction

This chapter presents the feelings people have in relating to our soil, water and wetlands. It also contains information presented on the social and health aspects of dealing with resources.

The people of Saskatchewan appreciate the fact that soil, water and wetland resources are of social value and that these values exist even though they are not well documented.

The quality of life was also addressed. It was considered one of the values that Saskatchewan people are concerned about in terms of soil and water resources.

Social Aspects

Values accepted by the general public influence us all. The meetings dealt with the values society holds in terms of soils, water and wetlands, exploring the benefits people see in soil and water resources on a personal level, and also exploring the pressure society puts on the stewards of some of those resources.

Our environment affects our quality of life. We are each affected by soil, water and wetlands. Agricultural decisions are affected by societal values. As society changes its values, the marketplace changes. That pressure influences how the community manages its soil and water resources and will affect our future.

While none of the submissions dealt solely with the social issues facing the people of our province, many people did voice concern. Some responses were a simple acknowledgement that soil and water resources are of benefit to society. The family farm values held in this province were addressed as were the peoples' feelings for the land. Many farmers are protective of their ability to determine the future of their landholding while others are looking at a global picture of our world. The goal of sustainability as outlined by the Brundtland Commission Report (1987) is also entering into the way many people look at soil, water and wetland management.

It was said that Saskatchewan's farming heritage gives our people an interesting approach to the way we view ourselves within our world. For many years Saskatchewan has been known as the grain province. A change in this attitude is seen as necessary to be proper stewards of the land. Saskatchewan is more than grain. It is felt that a change in this value would do much for soil and water resource management in our province. We could consider other resources - a duck's nest, a deer, a Saskatoon bush - as valuable.

Saskatchewan farmers feel in touch with the land. "I farm in harmony with nature and nature provides my living" (Schnell, Appendix 1).

Many farmers are fiercely determined that landowners and the government together should control land use policy decisions without NGO and special interest involvement. Expropriation of land is one action that could cause a rebellion. Farmers do care for the land or they wouldn't be farmers. Education of farmers may play a role in dealing with those who do not appear to care about how they use the land. Wise use of our resources must be proven as a paying proposition, be it soil conservation or in shelterbelt use. One group feels the Canadian Organic Farmers Marketing Cooperative is an example of good stewardship of the land.

People indicated concern over the attitude, "It's my land -- I'll do what I like." There is some feeling that our actions affect the earth on a wider level and that a more global concept of the world would be important to us all.

Some people voiced their feelings that some farmers are 'farming' the government programs and not the land. These programs are discussed in Chapter One. Participants suggested that people may be trying to farm for crop insurance. It was said that anyone who did this would not last long as a farmer. We heard that the quota system based on acreage rewards dishonesty and may force farmers to make land use decisions they know are not good for the land. While the majority of farmers appear to care for the land, there are some that will do whatever is necessary for profit. Lack of conservation practices may be due to financial necessity. It was asked why people did not take responsibility for their own development programs instead of expecting money from the government for everything. The reply was that it is the only way to get your money back. It was also brought to our attention that if one farmer received a lot of help, he had many dissatisfied neighbors. It appears to be part of

human nature to want to get what others receive in terms of financial assistance. There is also a segment of the farming community that will go to any length to take advantage of any system they can.

Proper use of water resources was addressed by several presenters. Saskatchewan people must learn to see water as a priceless commodity. Society has many activities that depend on our wetlands and is becoming more concerned with draining wetlands and with soil, water and wetlands conservation as a whole. The problems faced in forming land use policy are real. There are rising societal pressures to use our resources wisely and to preserve some areas that cannot be replaced but the needs of the agricultural sector must also be met. Some people feel an economic answer is part of the solution. Certainly economics influence the decision making of some farmers.

Many presenters approach the land use question from the goal of sustainability. Sustained development is seen as a situation where soil, water and wetlands would be managed for the long term betterment of all. It is felt that society in general is going to have to assist the landowner in moving toward more sustainable development and to soil and water resource management itself. Incentives will encourage conservation positive soil and water management but in turn society will want to get some of the value in the form of wetland retention and wildlife viewing and harvesting opportunities. When we retain marginal land in its natural state we help ourselves.

Along with the social issues and pressures that are coming to bear in determining the future of our soil, water and wetlands management, people remain concerned with the family farm heritage and rural orientation of Saskatchewan. It was stated that our family farm tradition is in peril and that farm size is increasing and huge landholdings seem to be the only ones to make a go of it. We were told that research may support the findings that farms are the most effective way of good conservation, but others feel large farms lead to mining soil. A 'farm for profit only' attitude without care for the soil and wildlife habitat was a concern expressed. With ever increasing farm size comes a decrease in number of farmers and therefore a loss of rural orientation of Saskatchewan.

The value system we hold as a society affects our actions. Changes in societal values and marketplace will lead to inevitable conservation land use adjustments in rural Saskatchewan. One of society's values that was identified as a culprit of some bad land

use decisions is a 'Cheap Food Policy'. Conservation positive land use may cause food costs to rise. This is seen as one thing that society may have to accept in their demand for wise use of our resources. Society in general is going to have to assist the landowner in developing a more sustainable management of the land.

Quality of Life

Quality of life is a challenging issue to address. We cannot reach out and touch it like the soil or the water, yet we know it is there. Environment influences the quality of life.

The Saskatchewan Wildlife Federation told us they work to restore, conserve and perpetuate Saskatchewan's natural environment. They recognize that development has taken much away from the natural beauty of the province and therefore may have taken away from the quality of life in Saskatchewan. One landowner left his wetland and forest acres untouched because he did not view them as the wasteland they are assessed to be. This family sees this area as part of the character of their farm and they are concerned that nothing protects these areas other than the whim of the current owner. They see zoning bylaws as one way of protecting societal benefits on private land. Compensation would have to be used to make this acceptable to the landowner.

Presenters told us the multiple values of wetlands are not well documented. There is great need to develop valuation methods and models which will allow inclusion of those values in calculating benefit/cost analyses when water management and development decisions are made. Such an undertaking would be a difficult task but results would be worthwhile.

Personal conflicts occur between neighbours when one wishes to preserve a water body while another wants to drain it. Some landowners enter arrangements with Ducks Unlimited Canada simply because they recognize that wetlands have value and they wish to ensure the continued existence of wildlife. People enjoy watching a mother duck and her ducklings swimming. They like to see the wild grasses and flowers when they go out for a drive.

Health

People are very concerned about the state of the environment because health is influenced by it. Clean air and clean water are considered essential for healthy living.

In terms of clean air there is concern that on-farm burning and the burning of railway rights of way, a source of pollution, affects health.

Water issues are of great importance and the recent drought has underlined these concerns. Water supply (surface and groundwater) and quality is essential to maintain life. One recommendation was to save seasonal runoff water to be used in times of low supply. Groundwater is also an important supply for many people.

Concern was expressed that water and wetland project implications are examined without consideration for groundwater or downstream effects and that draining of wetlands results in dugouts and wells going dry. There must be recognition that wetlands collect and store run-off and agricultural chemicals and recharge groundwater aquifers.

Top quality water cannot be expected from prairie streams, hence conservation must be used to keep soil on the land and out of the water. Working fields to the edge of the water increases siltation and decreases water quality.

There is concern about soil polluting waterways and emphasis needs to be placed on grassed waterways which act as a buffer zone. Foliage around water is a filter to purify streams and decrease siltation. As well, it protects areas from effects of wind and the greater evaporation that it brings. It was stated that drainage increases sediment in reservoirs.

Dugout water treatment is a problem in Saskatchewan as many farm families depend on dugouts as their water source. The growth of weeds, algae and bacteria makes dugout water unpalatable and unsafe. Chemical treatment to dugouts and in-house treatment often do not work and may create more problems than they solve. Research into water quality of dugouts by Dr. Hans Peterson of the Saskatchewan Research Council and the Saskatchewan Water Corporation should continue.

There is recognition that water pollution also comes from urban areas. Untreated sewage, industrial waste and agricultural

run off have put rivers, lakes and streams in serious jeopardy. The toxins relegated to the earth may have migrated into the water table and caused serious pollution.

Some briefs addressed how wastes should be managed. The Town of Redvers presented an innovative idea in natural waste water management treatment systems. They would like to use one or two shallow reservoirs with cat-tail growth to treat their sewage. They informed the Task Force that cat-tails decrease nitrates, phosphates, biological oxygen demand and fecal coliform in the water in a relatively short period of time. They report that conferences have been held in the United States discussing the merits and technical requirements of cat-tail marsh waste water management.

The Task Force was also told that Humboldt had done a test project but that the cat-tail marsh is now gone and effluent is running into the lake and ruining it.

In Tisdale, a recommendation was made to ensure clean water in rivers. The suggestion was that towns be required to take their water downstream of where they dump their effluent. The presenter saw this as reasonable because the group who knows what is released into the water can treat it more effectively.

Chemical use in agriculture was another health concern. People are concerned that chemical use may cause cancer. There is concern that after further research a chemical is sometimes found to linger in the soil when it was once viewed as safe. If these chemicals linger in our soil they also enter waterways. All chemical use and especially anhydrous ammonia use is a concern to one presenter.

A presenter told us that by landfilling waste we neglect to use resources wisely. As part of waste management, the collection and recycling of materials should be implemented. The suggestion was made that a facility to handle hazardous wastes be built. Developing environmentally sound coal fired power stations and the rejection of nuclear power was encouraged because the life of power plants is too short and the half life of wastes too long. Government assistance would be required to help the private sector in recycling facilities.

It was considered that the private sector is presently making some advances in waste management. A submission was received from a private company that cleans up oil spills and environmental waste in the oil patch. Different plants and

projects started by independent companies to clean up waste should be encouraged as these wastes have a very real impact on soils.

SUMMARY OF BRIEFS

1. The value system Saskatchewan people hold as a society affects and influences actions taken in terms of soil, water and wetlands management. The goal of sustainability, developed as a joint environmental and economic goal, is of interest to many.

2. Agricultural decisions are affected by societal values because, as greater society changes their values, the marketplace changes. This influences how the community manages its soil and water resources.

3. While the large majority of farmers care for the land and recognize the need to be good stewards, some farmers use their land unwisely to exploit government programs. Due to this exploitation by some farmers, all government policies must be examined to ensure they are conservation positive or, at least, conservation neutral.

4. Rural people need the support of all Canadians to assist in absorbing the cost of changes in land management. The landowner needs to be compensated for protecting societal benefits of private land.

5. To achieve proper stewardship of the land, Saskatchewan needs to be considered as a total entity with many resources, not just as a grain producing province.

6. There are strong and diverse feelings about who should develop, implement and control land use policy decisions.

7. While there is rising societal pressure to use resources wisely and to preserve areas that cannot be replaced, the needs of the agricultural sector must also be met. The family farm tradition is in peril. Society in general has a responsibility to assist the landowner in sustainable development and soil and water resources management.

8. Industrial development has taken away from the natural beauty of the province and has therefore taken away from the quality of life.

9. Many people stated their concern that wetlands and forest areas on private property are not adequately protected.

10. The multiple values of wetlands are not well documented. Valuation methods and models are needed that allow inclusion of these values in calculating cost/benefit analysis when water management and development decisions are made.

11. There is concern about the state of the environment in recognition of the fact that health is influenced by the environment.

12. An adequate, good quality water supply is essential to maintain life.

13. Pollution is of concern because it affects health. This subject was addressed in a variety of ways.

14. Concern was expressed that water and wetland projects are examined without consideration for groundwater or downstream effects.

15. Landfill management and waste disposal neglects are a serious health concern that needs to be addressed in a coordinated and cooperative manner.

16. Chemical use in agriculture and forestry is a health concern.

CHAPTER 8

CONCLUSIONS AND RECOMMENDATIONS

After considering all of the information provided to us by the people of Saskatchewan during the period of Task Force meetings, the Task Force draws the following conclusions and makes the following recommendations.

The Task Force believes that these matters are of paramount importance and urge immediate action be taken on the recommendations.

1. Agriculture is a very important part of the Saskatchewan economy, therefore programs or policies for land use should be encouraged, and these should be planned in harmony with the farming community to achieve a stable agricultural economy.

Recommendation

That a comprehensive, long-term land use policy be developed and implemented that encourages multi-use and sustainable development. It is further recommended that this policy be developed on a regional basis with input from the local public and a broad spectrum of government and nongovernmental agencies.

2. It is clear that the relationship between resources and agriculture could be better understood by all citizens.

Recommendation

That the importance of proper use and management of soil, water and wetlands in Saskatchewan be introduced and incorporated into the elementary and high school curriculum and that the curriculum be developed with input from rural and urban communities. Adult education programs should also be given a high priority and current awareness and information campaigns should be enhanced through various means. These include demonstration programs involving farmers at regional levels, extension agrologists, rural development organizations, trade shows and exhibitions.

3. There appears to be a need for improved communication, cooperation and coordination among agencies involved in soil, water and wetlands management.

Recommendation

That an interdisciplinary committee be established with representation from all agencies involved in soil, water and wetlands management, and that this committee be given responsibility for coordinating and integrating their respective programs for the benefit of all Saskatchewan. It is further suggested that committee members be selected based on their commitment to multi-use and sustainable development.

4. Farmers have indicated that they would like to practice more conservation techniques in an effort to conserve soil, water, wetland resources. However, due to their low return on investment during the 1980's, farmers have not been financially able to practice some of these conservation methods. The landowner needs to be compensated for protecting societal benefits that result from private land.

Recommendation

That the governments enable farmers to practice better conservation by ensuring that they receive a realistic return on their investment and that all Canadians assist financially in absorbing the costs of changes in land management. That the governments be encouraged to continue and increase assistance for reduction of farm costs, and also that the governments encourage research into products, machines, and farming practices that aid conservation and the prevention of soil degradation.

5. Farmers depend on their lands for their livelihood and way of life.

Recommendation

That the governments ensure water and land use decisions relating to the farmers' property remain with the farmer provided these uses comply with governmental water and land use policies.

6. The environment must be protected and enhanced for current and future generations.

Recommendation

That stricter controls on effluent release by urban, industrial and agricultural enterprises be developed and enforced, and that a rehabilitation program be developed to improve water that is presently polluted.

7. **Recommendation**

That Environmental Protection Regulations be reviewed, developed and upgraded where necessary, and that all environmental regulations be strictly enforced.

8. Some characteristics of the soil, water and wetlands resources of this Province have changed considerably.

Recommendation

That the Government of Saskatchewan ensure that hydrological, soil, wetlands and other biophysical information be continually improved and updated. This includes:

- updating hydrological information such as that used for flood forecasting. Many changes in watershed characteristics may have taken place. These changes would affect the quantity and quality of water released from a watershed;
- Saskatchewan lands should be inventoried, typed and classified to identify specific, unique and fragile land forms with a view to ensuring these for future generations;
- comprehensive review of wetlands including classification as to permanent and temporary wetlands and the quantity and quality necessary to maintain appropriate ecology and environment. Consideration should also be given to multiple use of resources. The consequences of the changes in these resources on the other aspects of the environment and on society should be determined.

9. **Recommendation**

That research be further encouraged to assist in solving soil, water and wetlands conservation and enhancement problems. The research should particularly be in the following areas:

- effective and economical conservation information and techniques;
- effects of soil, water and air pollution on health;
- effective ways of improving water, soil and wetland quality;
- effective use of agroforestry for sustained land use.

10. Farmers are not prepared to and should not be expected to shoulder the financial responsibility of hosting wildlife and waterfowl for the benefit of society in general.

Recommendation

That farmers be compensated for crop depredation by wildlife and waterfowl at 100 percent of the damage, with no ceiling; and that this compensation be paid promptly, with special interest groups contributing financially.

11. Some of Saskatchewan's marginal cultivated lands were originally broken to take advantage of the financial incentives available at the time.

Recommendation

It is recommended that programs based on acreage instead of production be reviewed and that the Provincial and Federal Governments be actively encouraged to develop an accelerated program to return marginal cultivated land and unproductive former wetlands to their near natural state.

12. A proactive approach is required to deal with the problem of unauthorized drainage.

Recommendation

That the Government of Saskatchewan review, further develop and enforce legislation to stop unauthorized drainage. This is in response to the paramount concern about this issue.

13. Small water bodies perform multi-use tasks such as providing for livestock, wildlife, recharge of groundwater, drought and flood proofing, and erosion prevention.

Recommendation

That a program be developed and promoted to retain small impoundments on creeks and water courses.

14.

Recommendation

That measures currently in place to protect all permanent water bodies, lakes, rivers, and streams from exploitation right to the water's edge be enforced on Crown and private lands.

15. Unused and undeveloped road allowances and rights of way can have numerous beneficial roles including soil and water conservation and wildlife habitat preservation.

Recommendation

That Rural Municipalities be given incentives to reclaim cultivated road allowances and other public cultivated areas where agreeable and practical.

16. Recommendation

That Crown owned land, which acts as watersheds, wind and water erosion barriers, and wildlife habitat, be protected against unauthorized clearing and breaking.

REFERENCES

Brundtland, G.H. (Chairman). 1987. Our Common Future. World Commission on Environment and Development, Oxford University Press, New York. 400 pp.

Sparrow, H.O. (Chairman). 1984. Soil at Risk. Canada's Eroding Future. Standing Committee on Agriculture, Fisheries and Forestry to the Senate of Canada. Senate of Canada, Ottawa. 114 pp.

Young, D.A. 1989. Soil, Water, Wetlands, A Discussion Paper. Commissioned by the Souris Basin Development Authority, Estevan, Sask.

APPENDIX 1

LIST OF BRIEFS

1. Swift Current April 12

Russell Jans - Tompkins

2. Assiniboia April 13

Gordon Broeder - Assiniboia
L. Brett Meinert - Shaunavon
Philip Delorme - Assiniboia

3. Moose Jaw April 14

Bob Watkinson - Central Butte
Ed Begin - Moose Jaw (Sask. Wildlife Federation)
Doug Cole - Moose Jaw

4. Estevan April 18

Clayton Toner - Estevan
Robert Young - Alameda
Jack Muirhead - Estevan (Souris International Good Water Group)
Ruth Torkelson - Beaubier
Ron Russell - Regina (Town of Redver & RM of Antler)
Rodger Kinder - Alameda
Hugh Schnell - Torquay

5. Yorkton April 19

Allan Psiurski - Glen Avon
Larry Mish - Glen Avon (Chester CAA)
Noel Barbeau - Melville
Nick Bobyk - Kamsack
Louis Wolkowski - Buchanan (RM Buchanan)
E.D. Wicichar - Canora
Fred Petroff - Buchanan (Buchanan CAA)
Fred Canning - Hudson Bay (Etomami CAA)
Bob Stewart - Melville
Rosella Diduck - Kamsack

6. Humboldt April 20

M. Sigstad - Quill Lake
Dave Gullacher - Humboldt (Prairie Agricultural Machinery Institute)
Ed Wacholtz (2) - Englefield

7. Tisdale April 21

Walter Hill - Melfort
Tony Holinaty - Hudson Bay
Don White - Nipawin (Nipawin CAA)
Donald Flowerday - Carrot River (Moose Range CAA)
Gordon Young - Porcupine Plain (Shand Creek CAA)
Saskatchewan Conservation and Development Assoc.
Earl Breadner - Nipawin
Kelly Patrick - Kelvington (Kelvington CAA)
Tom Schmidt - Melfort
Derrek Stanley -Tisdale (Sask. Wildlife Federation)
Al Zielke - Tisdale
Ron Alton - Carrot River (RM of Moose Range)
Elmer Irvine - Melfort

8. Prince Albert April 25

Richard Stieb - Prince Albert
Eugene Bossenmaier - Mayview

9. North Battleford April 26

Jean Sloan - Lloydminster
David Stuart - Edam
Jim Patterson - (Wildlife Habitat Canada)
Hector Schiell - Medstead (Farm Woodlot Assoc.)

10. Rosetown April 27

Laurence Butler - Dinsmore
Len Jabush - Saskatoon
Doug Chekay - Regina (Ducks Unlimited)
Lorne Sheppard - Lucky Lake
Hubert Esquirol - Meota (Western Canadian Wheat Growers Assoc.)
Jerry Spence - Rosetown
Keith Law - Saskatoon
Barry Rogers - Saskatoon

BRIEFS RECEIVED BY MAIL

Don Geesen - Wilcox
R.K. Brace - Saskatoon (Canadian Wildlife Service)
W. Haussecker - Maryfield (Mayor)
Dr. Gerald Fuller - Regina
Jack Armitage - Prince Albert
Ken Smith - North Battleford
E.W. Richter - Weyburn (Souris CAA Area Authority)
James Hendren - Kelvington
Dave Wenner - Kamsack
Gordon Kerr - Edmonton (Canadian Wildlife Service)
Thomas Smith - Pathlow
Jim Elliott - Regina (Natural History Society)
George O'Bertos - Tisdale

APPENDIX 2

AGENCY RESPONSES

Saskatchewan Parks, Recreation and Culture
Saskatchewan Agriculture and Food
Saskatchewan Rural Development
Saskatchewan Water Corporation
Saskatchewan Education
Ducks Unlimited Canada
Conservation and Development Association
Saskatchewan Wetland Conservation Corporation

APPENDIX 3

LIST OF ACRONYMS

CAA	Conservation Area Authority
CWS	Canadian Wildlife Service
DU	Ducks Unlimited
NAWMP	North American Waterfowl Management Plan
NGO	Non Government Organization
SARM	Saskatchewan Association of Rural Municipalities
SWC	Saskatchewan Wetlands Committee
TAC	Saskatchewan Wetlands Technical Advisory Committee
RM	Rural Municipality
SWF	Saskatchewan Wildlife Federation